Far Eastern Survey

AMERICAN INSTITUTE OF PACIFIC RELATIONS

North Korea's Postwar Recovery

BY THEODORE SHABAD

SINCE THE 1953 TRUCE ending the Korean war, the struggle for Korea has shifted from the military to the economic field. South Korea, backed by aid from the United States and the United Nations, has been vying in reconstruction with North Korea, which has the support of the Communist bloc. There has been considerable interest in evaluating the progress made by the two sides in restoring the war-devastated economy of the Korean peninsula, but comparisons have been made difficult by the lack of explicit information on economic developments in the North. Like other Communist regimes, the North Korean administration expresses its achievements in terms of percentages that are virtually meaningless without an index base to which they can be applied. This article is designed, by utilizing available North Korean sources, to reduce the percentages to meaningful terms and thus enable students to assess the actual progress of economic recovery in North Korea.

The basic data are found in the official text of the "Law on the Three-Year Plan of Rehabilitation and Development of the National Economy of the Korean People's Democratic Republic in 1954-1956" and in a speech by Pak Chang Ok, a Deputy Premier, explaining the plan to the Seventh Session of the North Korean National Assembly in April 1954. The texts of the plan and the speech have been published in Korean and Russian.[1] The plan lists proposed 1956 production goals for major commodities and gives them in absolute figures. The planned figures in themselves are no guide to actual output since the goals may not be attained, but the plan also relates the 1956 goals in percentage terms to actual output of the given commodities in 1949 and 1953 and thus makes it possible to calculate output for those two years in absolute figures. Both years are important base periods—1949 as the last full peacetime year before the start of the Korean war and 1953 as the base year used for computating the postwar Three-Year Plan. The absolute production figures calculated for 1953, in turn, serve as the index base for the percentages announced by the North Koreans in their annual plan fulfillment reports. The Central Statistical Administration of the North Korean State Planning Commission has published such reports for the years 1954[2] and 1955[3].

The Three-Year Plan promulgated in April 1954 was designed to restore 1949 production levels in most sectors of the economy. In April 1956, Kim Il Sung in a report to the Third Congress of the ruling Labor (Communist) party[4] said that the Three-Year Plan

Mr. Shabad is a staff member of the foreign news desk of *The New York Times* and author of *China's Changing Map.*

1 *Kyongje Konsol* (Economic Construction), Pyongyang, No. 5, 1954, pp. 1-65. Russian translation in *Novaya Koreya* (New Korea), Pyongyang, No. 5, 1954, pp. 3-18 and supplement; also in *Vosstanovleniye i razvitiye narodnogo khozyaystva Koreyskoy Narodno-Demokraticheskoy Respubliki* (Rehabilitation and Development of the National Economy of the Korean People's Democratic Republic), Moscow, 1955, pp. 86-164.

2 *Nodong Sinmun,* Pyongyang, January 28, 1955. Russian translation in *Novaya Koreya,* No. 2, 1955, supplement, and in *Vosstanovleniye, op. cit.,* pp. 165-186.

3 *Nodong Sinmun,* January 25, 1956. Russian translation in *Novaya Koreya,* No. 2, 1956, supplement.

4 *New China News Agency* (Daily News Bulletin), London, April 26, 1956, pp. 27-28; also *Pravda,* Moscow, April 26, 1956, p. 3.

JUNE 1956 VOL. XXV NO. 6

IN THIS ISSUE

• North Korea's Postwar Recovery
Theodore Shabad

• Recent Publications of the Mongolian Commission
G. G. S. Murphy

had already been fulfilled in terms of aggregate industrial output and that the goals for most industrial items would be met by the middle of 1956. He also outlined a few production goals of the First Five-Year Plan, starting in 1957.

In the following discussion of North Korea's postwar recovery, reference will be made to the geographic distribution of economic activities. The country is divided into three major geographic regions: the Northern Interior, the East Coast and the West Coast. The Northern Interior is mountainous, forested and sparsely populated. Its main economic activities are lumbering, mining and the generation of hydroelectric power. The East Coast has limited agriculture in coastal valleys, important commercial fisheries and an industry based on the minerals and electric power of the Northern Interior. The West Coast is the most densely settled part of North Korea, with the largest share of agricultural land. Both mineral and agricultural industries have developed here. The provincial pattern superimposed on these major regions is shown in Table 1.

TABLE 1. PROVINCES OF NORTH KOREA

Major Region	*Province*	*Capital*	*Other large cities*
North Interior	Chagang	Kanggye	
	Yanggang	Hyesan	
East Coast	North Hamgyong	Chongjin	Nanam, Kim Chaek
	South Hamgyong	Hamhung	Hungnam
	Kangwon	Wonsan	
West Coast	North Pyongan	Sinuiju	
	South Pyongan	Pyongyang	Nampo
	Pyongyang city		
	North Hwanghae	Sariwon	Songnim
	South Hwanghae	Haeju	
	Kaesong city		

1 The provinces of Yanggang and North and South Hwanghae were created in November 1954 after the Three-Year Plan was adopted. Therefore they do not appear in some of the provincial production tables cited below. Yanggang was carved out of South Hamgyong province, and North and South Hwanghae out of the former Hwanghae province.

2 Pyongyang and Kaesong are independent cities outside of provincial jurisdiction.

3 A number of North Korean cities have been officially renamed by the Communists. Hyesan was formerly called Hyesanjin; Kim Chaek is the former Songjin, which was renamed for a North Korean leader who died in 1951; Nampo was formerly known as Chinnampo, and Songnim is the former Kyomipo.

As in other Communist countries, North Korean statistics express the aggregate value of industrial production in terms of the gross output of state-owned and cooperative industry (the so-called socialized sector of industry). Private industrial output has become negligible. According to Kim Il Sung's report last April, the socialized sector accounted for 98.3 percent of the total industrial output in 1955 compared with 90.7 percent in 1949. According to the Three-Year Plan, the gross output of state and cooperative industry was to rise by 1956 to 51.2 billion won. Of this total, industry under central ministries was to have an output of 43.8 billion won; industry under provincial jurisdiction, 4.0 billion; and cooperative industry, 3.4 billion. The gross output of socialized industry is shown in Table 2.

The Three-Year Plan provides a provincial breakdown of industrial output, illustrating the concentration of industry in certain areas (Table 3). Pyongyang, the capital, was expected to account for 22 percent of the nation's output in 1956, North Pyongan province 19 percent and North Hamgyong 16 percent.

One of the mainstays of the North Korean economy is its electric power industry. Hydroelectric stations built under Japanese rule generate virtually all the electric power of North Korea. There are no large thermal power plants fed by coal, though a number of small power stations utilize the by-product gases of metallurgical plants and the waste heat of cement plants. The Three-Year Plan called for the restoration of prewar power generating capacity by the end of 1956. Of the total 1,350,000 kw to be restored, the large Supung station on the Yalu River was to have a capacity of 600,000 kw. Work was also scheduled to proceed on the restoration of the Changjin, Pujon and Hochon hydroelectric systems in the northeast. Other stations to be rebuilt are at Puryong (North Hamgyong province) and in the Kumgang-san or Diamond Mountains (Kangwon province) near the eastern end of the armistice line. The plan also called for resuming con-

struction of incomplete hydroelectric stations at Kanggye and elsewhere along the Tokno River, a tributary of the Yalu.

Although generating capacity as of January 1, 1957, was planned to be approximately at the 1949 level, actual electric power output was expected to rise to only two-thirds of the prewar level. The under-utilization of available capacity was linked to the lag in restoration of the chemical industry. This industry, one of the principal victims of wartime destruction, has been the main consumer of North Korea's electric power output. The country's chemical plants, notably those in the Hungnam area, are not expected to be restored to their prewar capacity until after 1956 and the under-consumption of electric power is to continue in the meantime. Total power output planned for 1956 was 3.8 billion kw-hours. The Supung station in North Pyongan province was expected to produce 1.65 billion kw hours, or 43.4 percent of the total, and the Changjin, Pujon and Hochon systems in South Hamgyong province 2.06 billion, or 54.2 percent. The erhabilitation of the electric power industry has been proceeding according to plan (Table 4) and a major increase in production is scheduled for 1957-1961.

TABLE 2. GROSS OUTPUT OF SOCIALIZED INDUSTRY
(in billion won)

1946	8.9	1953	19.6
1947	16.9	1954	34.4
1948	23.3	1955	52.3
1949	33.4	1956 Initial Plan	51.2

TABLE 3. PLANNED 1956 GROSS OUTPUT BY PROVINCES
(in billion won)

Northern Interior		*West Coast*	
Chagang	4.1	North Pyongan	9.6
East Coast		South Pyongan	5.9
North Hamgyong	8.2	Pyongyang city	11.1
South Hamgyong	7.7	Hwanghae	2.3
Kangwon	2.0	Kaesong city	0.2
		Total	51.2

TABLE 4. OUTPUT OF ELECTRIC POWER
(in billion kw-hours)

1948	6.1	1954	1.98
1949	5.93	1955	3.19
1953	1.03	1956 Plan	3.8
		1961 Plan	8.5

In connection with the planned increase in electric power output, the Three-Year Plan called for the restoration of the electrical equipment industry, listing an electrical accessories plant at Kangso (west of Pyongyang), a light bulb factory at Pyongyang, and an insulator factory at Chuul (southwest of Sariwon).

Serious damage was caused during the war to North Korea's coal industry, almost all major coal mines having been destroyed or flooded. The heaviest damage was inflicted on the anthracite fields of South Pyongan province. The anthracite, mined chiefly in the Taedong River field around Pyongyang and in the Chongchon River field around Kaechon, is used by the railroads and the chemical industry. Because of its crumbly character, the North Korean anthracite requires briquetting, but facilities for this processing were also destroyed during the war. Lesser damage was caused in the sub-bituminous coal mines of North Hamgyong province along the Northeast Coast. The coal, mined chiefly in the Aoji and Kilchu areas, is used in the production of synthetic fuel. At the end of 1953, 35 mines were in partial operation (17 in the sub-bituminous area and 18 in the anthracite fields) with a potential capacity of 3.5 million tons annually. The Three-Year Plan called for the restoration of 32 additional mines (16 sub-bituminous and 16 anthracite) raising the total capacity to 6.3 million tons annually by the end of 1956. In addition, construction was to be started on three new mines with a combined capacity of 2.5 million tons. It was hoped that by the end of 1956 North Korea's anthracite mines would be able to meet the country's railroad fuel needs and that imports of that type of coal from China could be halted.

The production target set for the coal industry for 1956 was 4 million tons, including 2,445,000 tons of anthracite (of which 1,510,000 tons from South Pyongan province) and 1,555,000 tons of sub-bituminous coal (all from North Hamgyong province). If the Three-Year Plan is fulfilled, as seems likely, the 1949 production level will have been restored, but North Korea's coal industry will still be below the output achieved in 1944 under Japanese rule (5.5 million tons). The preliminary goal of the Five-Year Plan calls for a 70 percent increase in coal production from 1957 through 1961. Actual output in recent years is shown in Table 5.

TABLE 5. COAL OUTPUT
(in million tons)

	Anthracite	*Sub-Bituminous*	*Total*
1944	3.0	2.5	5.5
1948			3.9
1949			3.99
1953	.3	.4	.7
1954	1.2	.9	2.1
1955	2.0	1.3	3.3
1956 Plan	2.445	1.555	4.0
1961 Plan			6.8

The war destroyed 88 percent of the production capacity of North Korea's ore mining plants. Out of 46 concentrating mills, 27 of the largest were put out

of commission. The Three-Year Plan called for the restoration of 24 mining enterprises, including the Komdok (South Hamgyong) and Songchon (South Pyongan) lead-zinc mines, the Koksan (North Hwanghae) tungsten mine, the Songhung (South Pyongan) copper-gold mine, the Taeyu-dong (North Pyongan) gold-silver mine and the Musan (North Hamgyong) iron mine. The plan lists no absolute goals for the production of non-ferrous concentrates, expressing the 1956 goal merely in terms of percentages based on prewar output (Table 6).

TABLE 6. PLANNED 1956 OUTUT OF NON-FERROUS CONCENTRATES
(Base 1949=100)

All metals	180
Lead	380
Zinc	270
Antimony	300
Copper-gold	100
Gold-silver	100

According to the Three-Year Plan speech of Pak Chang Ok, mineral exploration was pursued even during the Korean war and led to the discovery of additional lead-zinc deposits. The plan continues to stress the need for exploration, notably with regard to copper, tungsten and iron ore.

Non-ferrous concentrates are normally shipped to Nampo, Munpyong and Hungnam for smelting and electrolytic refining. All three plants were put out of operation as a result of the war. At Munpyong, just north of Wonsan, one lead-smelting furnace was put back into operation in December 1953, but there was no electrolytic refining of any of the base metals. According to the Three-Year Plan, copper and zinc smelting and refining capacities are to be restored at Nampo and lead and zinc facilities at Munpyong. The restoration of the Hungnam plant is not mentioned. The refining of lead and copper resumed in 1954 and by 1956 refining of lead is planned to reach double the 1949 level. However, the Three-Year Plan envisaged electrolytic zinc production in 1956 at only 52 percent of the prewar level. As late as 1955, zinc production had not been resumed.

In the ferrous field, iron-ore mining was to be resumed only at the Musan mine in North Hamgyong province, producing 400,000 tons of ore by 1956. This was still far below the 1944 Japanese peak of 1,000,000 tons. No provision was made under the Three-Year Plan to exploit other iron mines which produced 2,000,000 tons of ore in 1944, notably at Hasong and Chaeryong in South Hwanghae province.

At the outbreak of the Korean war in 1950, six small iron and steel plants operated in North Korea. All were destroyed to varying degrees by military operations. The heaviest damage was caused to the integrated iron and steel plant at Songnim (North Hwanghae province) and to the electric steel plant at Kim Chaek (North Hamgyong province). Major damage was inflicted on the steel plant at Kangso, southwest of Pyongyang, and to two plants at Chongjin, one producing pig iron and the other electric steel. Finally, the Puryong ferro-alloys plant (North Hamgyong province) was partly destroyed.

The coke by-products and pig-iron plants at Songnim and Chongjin were at a standstill in 1953. According to the Three-Year Plan, only the Chongjin plant was to be restored by 1956, producing 180,000 tons of pig iron from the 400,000 tons of Musan iron ore. The coke by-products plant was restored in 1954 and the first pig iron was produced in 1955. North Korea has no coking coal and must import it from adjoining Manchuria.

No steel and rolled products were made in the first nine months of 1953. In the last quarter, one electric furnace and part of a rolling mill were restored at the Kim Chaek steel plant, producing 3,600 tons of ingot steel and 3,500 tons of rolled products during the rest of the year. In the course of 1954 and 1955, steel furnaces and rolling mills continued to be restored at the other plants. Ferro-alloy production was resumed in 1954, presumably at the Puryong plant, and a ferro-alloy department was opened at Songjin during 1955. The production of North Korea's iron and steel industry in recent years is shown in Table 7.

TABLE 7. PIG IRON AND STEEL OUTPUT
(in tons)

	Pig Iron	*Steel Ingots*	*Rolled Products*
1944	600,000	300,000	200,000
1948	100,000	125,000	
1949	166,000		
1953	none	3,600	3,500
1954	none	54,000	38,500
1955	output resumed	135,000	100,000
1956 (Plan)	180,000		
1961 (Plan)	500,000		

The machine-building industry of North Korea was only slightly developed before the Korean war. It included twelve machine-building plants of various types in addition to three shipyards are Nampo, Wonsan and Chongjin. During the war, nine machinery plants were destroyed and all three shipyards were put out of operation. At the same time, however, the construction of seven new underground machinery plants was begun. The Three-Year Plan, in calling for the restoration of the machine-building industry, stressed the priority of mining equipment, pumps (for the restoration of

flooded mines), agricultural machinery, power launches for the fishing industry, and consumer hardware. The planned 1956 output compared with actual 1949 and 1953 production of the machinery industry is shown in Table 8.

TABLE 8. OUTPUT OF THE MACHINERY INDUSTRY

	1949	*1953*	*1956 Plan*
Total Output (billion won)	2.44	3.05	6.1
Mining Equipment (tons)	500	3,000	12,000
Pumps (units)	421	375	750
Agricultural Machinery (million won)	23	34	380
Power Launches (units)	3	20	206
Diesel Engines (units)	13	none	200

The emphasis on machinery production is typical of the Communist economy of North Korea. Under Japanese rule, the country was regarded chiefly as a raw material producer and was expected to import manufactured goods. The aim of the Kim Il Sung regime is to end what it calls the "colonial lopsidedness" of the economy by promoting the growth of manufacturing industries, particularly machinery plants. One interesting aspect of the North Korean machinery industry is its decentralization. Relatively few plants are situated in the largest industrial centers. Pyongyang has the country's largest agricultural machinery plant, which in 1956 is to produce 70 percent of all farm tools. Other implement factories are in North Hamgyong and South Hwanghae provinces. A machinery industry has grown up at Huichon in Chagang province of the underdeveloped Northern Interior. Huichon has a machinery plant and an automobile parts factory, both completed in 1954. During the Five-Year Plan (1957-1961), the parts factory is to be converted into a full-fledged truck manufacturing plant with a capacity of 6,000 trucks a year. Several machinery plants are in North Pyongan province, including one for mining machinery at Kusong and two others at Nakwon and Pukchun.

The chemical industry, one of the leading branches of the North Korean economy, was very heavily damaged in the war. The two largest plants—at Hungnam and near-by Pongung—were virtually obliterated by aerial bombardment, and others, such as the one at Sunchon in South Pyongan province, were also damaged. The chemical plants halted virtually all operations after the first massive air raids in August 1950. At the end of the war in 1953, the chemical industry was reduced to the production of small amounts of calcium carbide, domestic soap and car batteries. The destruction was so great that the Three-Year Plan envisaged only a very limited restoration by 1956. Priority was to be given to the rehabilitation of fertilizer production. Fertilizer capacity of 150,000 tons a year was to be restored by the end of 1956, although actual output for that year was set at only 82,600 tons (20 percent of the 1949 level). Out of the total output planned for 1956, the Hungnam and Pongung plants were to produce 61,900 tons and the Sunchon plant 20,700 tons. The planned restoration under the Three-Year Plan stresses ammonium sulfate and calcium cyanamide production. Calcium cyanamide output was resumed in 1954 and ammonium sulfate capacity enabling the production of 100,000 tons a year was restored in 1955. The plan also calls for starting construction of a new ammonium nitrate department at the Hungnam plant. This addition, designed for a production of 100,000 tons of nitrate a year, is expected to help restore the prewar output level after 1956.

TABLE 9. CHEMICAL FERTILIZER PRODUCTION

	(in tons)
1948	332,000
1949	403,000
1953	none
1954	output resumed
1955	4.4 times 1954
1956 (Plan)	82,600

In the reconstruction of the North Korean economy, the rehabilitation of the building materials industry assumed special importance. As a result of the war, cement production in 1953 was only 5 percent of the 1949 level, brick production 33 percent, and roofing slate was not being produced at all. The Three-Year Plan called for the rehabilitation of the old cement plants and the building of five new ones, raising production capacity to 940,000 tons a year. In the course of 1954 and 1955, many of the old cement plants were fully or partly restored. Brick plants were to be built in all areas of industrial and housing construction to eliminate long hauls.

TABLE 10. CEMENT AND BRICK PRODUCTION

	Cement (in tons)	*Bricks (in millions)*
1948	392,000	
1949	537,000	44.3
1953	26,500	14.7
1954	230,900	279.3
1955	359,900	516.7
1956 Plan	650,000	722

Three cement plants were scheduled to produce 75 percent of North Korea's total output in 1956. The regional distribution of planned cement and brick production by provinces is shown in Table 11.

The 1956 goals of other building materials have been set as follows: roofing slate—2,073,000 square meters in 1956 compared with 345,000 square meters in 1949; tile—42.66 million units; plate glass—1,665,000 square meters. The glass factory, situated in Nampo, resumed operations in 1954.

The lumber industry, to be partly mechanized under the Three-Year Plan, is to be supplied with electric saws, portable power plants and logging tractors. Narrow-gauge railways are to be built in lumbering areas. In 1954, restoration work proceeded at eleven sawmills, including Wonsan and Hwagyong; in 1955 additional units were installed in the Yonsa and Pongung sawmills. The Three-Year Plan goals for timber haulage and sawn lumber were reported fulfilled in 1955, one year ahead of schedule. Paper production, for which no absolute figures are available, is being restored at Sinuiju and Hoeryong and at the pulp mill of Kilchu.

The concentration of lumbering operations in the Northern Interior and adajacent parts of the East Coast provinces is shown in Table 13.

TABLE 11. PLANNED 1956 CEMENT AND BRICK PRODUCTION

Province	*Cement*		*Bricks (in millions)*
	Factory	*Tons*	
North Hamgyong	Komusan	100,000	98.4
Kangwon	Chonnae-ri	268,000	58
South Pyongan	Sungho-ri	130,000	200
Pyongyang city			140.5
Others		152,000	225.1
Total		650,000	722

TABLE 12. TIMBER HAULAGE AND SAWN LUMBER
(in million cubic meters)

	Timber Haulage	*Sawn Lumber*
1949	1.61	.53
1953	1.05	.29
1954	1.83	.69
1955	2.53	1.05
1956 (Initial Plan)	2.30	1.0

TABLE 13. PLANNED 1956 TIMBER HAULAGE BY PROVINCES
(in thousand cubic meters)

Chagang	460
North Hamgyong	950
South Hamgyong	743
South Pyongan	70
Others	77
Total	2,300

Consumer goods industries made remarkable progress in the course of the postwar recovery. Like other sectors of the economy, consumer goods and food industries had suffered considerably from wartime destruction, the total damage being assessed at 16.9 billion won. Restoration work began even before the conclusion of the armistice. The first section of the Pyongyang cotton mill, the Kusong (North Pyongan) cotton mill, and the Pyongyang tobacco and industrial rubber plants were put into operation in 1953. Work on these and other consumer goods enterprises, many of which are situated in Pyongyang, continued through 1954 and 1955. As a result of rapid rehabilitation, some consumer goods goals of the Three-Year Plan were met already in 1955. For example, the 1956 goal for cotton cloth was 47.7 million meters, of which 36.3 were to be produced by the Pyongyang mill and 8.6 by the Kusong mill. Actual production in 1955 was 50.4 million meters. A similar overfulfillment of the plan took place in the silk-weaving industry, which has its main plants at Pyongyang, Pakchon and Yongbyon.

TABLE 14. CONSUMER GOODS PRODUCTION

	1949	*1953*	*1954*	*1955*	*1956 (Plan)*
Cotton Cloth million meters	9.4	20.7	24.0	50.4	47.7
Silk Cloth million meters	3.06	0.8	0.9	2.9	1.9
Rubber Shoes million pairs	4.8	4.6	8.1	12.0	14.3
Hosiery million pairs	6.8	5.0	8.9	14.5	13.6

The fishing industry suffered severely in the war, the damage being estimated at 5 billion won. The state-owned sector of the industry lost most of its motorized fishing boats. Out of 221 vessels operating in 1949, only 42 remained as of the end of 1953. Of 27 fishery establishments, 14 were in partial operation and refrigerating and canning plants were completely destroyed. The fish catch in 1953 was 46 percent of the 1949 level. In view of the importance of fish in the Korean national diet, the Three-Year Plan called for 4.5-fold increase in the fish catch during the three postwar years to double the prewar level. This was to be attained by the construction of a new state-owned fishing fleet of 216 power boats, including 117 trawlers of 70 to 150 horsepower, 71 trawlers of 60 to 75 horsepower and 28 seiners of 300 to 350 horsepower. Fishery cooperatives were to receive 1,656 sailboats and three new canneries were to be built at Chongjin, Sinpo and Wonsan, all on the East Coast. The plan called for a six-fold increase in the state-owned fish catch and a 26-fold increase in the cooperative fish catch, indicat-

ing that virtually all private fisherman were to be brought into cooperatives. The catch planned for 1956 was 550,000 tons, including 357,200 tons from South Hamgyong province and 101,500 tons from North Hamgyong.

TABLE 15. FISH CATCH
(in tons)

1949	275,000
1953	122,000
1954	236,000
1955	313,000
1956 (Plan)	550,000

While fisheries are concentrated on the East Coast, the salt essential for fish preserving is obtained mainly on the West Coast. The Three-Year Plan set a 1956 goal of 178,000 tons, to be produced in the salt fields of South Pyongan province, along the coast north of Nampo.

Communist economic development has been characterized as a general rule by a rapid rise in industry, particularly heavy industry, and a lagging agriculture. North Korea is no exception. While remarkable progress was recorded in the postwar recovery of industry, including even consumer goods, a comparable rise in farm output was frustrated in 1954, partly by inclement weather on the East Coast, and in 1955 by drought on the West Coast. In the meantime, the Government has proceeded with its plans to collectivize agriculture. There are three types of cooperatives: the first and lowest form involves only the collective working of the land, each cooperative member receiving the harvest from his own land; in the second, the land is worked collectively and the share of the harvest received by each member depends on the amount and quality of his work contribution and his land share; in the third, the land is actually collectivized and each member's share of the farm income is based on his work alone. Farm cooperatives were first organized on an experimental basis in some areas during the Korean war. At the end of 1953, there were 800 cooperatives comprising 12,000 farm households. At the end of March 1956, there were 14,700 cooperatives of all types, including 68.3 percent of all farm households and 65.5 percent of the arable land outside of state farms.

TABLE 16. PROGRESS OF COLLECTIVIZATION

	Number of Cooperatives	*Percentage of All Households*	*Percentage of Arable Land*
End of 1953	800	(12,000 households)	
End of 1954	10,098	32	29
April 1955	11,400	43	44
End of 1955	12,132	49	48
February 1956	14,651	65.6	62.1
March 1956	14,700	68.3	65.5

North Korea's agricultural organization also includes state farms which pay wages to their employes and are designed to operate as model farms, experimenting with new techniques and achieving high yields. At the end of the Korean war, there were 27 state farms under central government jurisdiction and 118 farms under provincial authority. Unlike cooperative and private farms, state farms own their tractors. The other types of farms are obliged to hire tractors, draft animals and farm implements from state-owned machine and animal hiring stations. At the end of the Korean war, North Korea's agriculture had the equivalent of 1,200 tractors (in terms of 15-horsepower units), of which 700 were operated by state farms and 500 were hired out to cooperatives and private peasants. The growth of the machine-hiring network is shown in Table 17.

TABLE 17. GROWTH OF FARM MACHINE HIRING STATIONS

	Number of Stations	*Number of Tractors*	*Percentage of Arable Land Worked by Hired Machines & Draft Animals*
End of 1953	14	500	5
End of 1954	16	515	9
End of 1955	45	1,960	20

In view of the Communist practice of withholding unfavorable statistics, especially in agriculture, and of the poor record of agricultural recovery, the documentation of farm output is far less complete than that of industrial production.

Before the Korean war, the total sown area of North Korea rose from 1,880,000 chungbo in 1946 to 2,340,000 chungbo in 1949.[5] The sown acreage evidently fell as a result of the war, but began to rise again at the end of the war, gaining 2 percent from 1952 to 1953, and was said to have "almost reached" the prewar level in 1953. In the course of 1954 and 1955, 37,700 additional chungbo were put under cultivation, but it was not clear whether the prewar level had been regained.

North Korea's grain production is evenly divided between rice and dry-field crops, in contrast to South Korea, where rice makes up 70 to 75 percent of the total grain output.

TABLE 18. GRAIN PRODUCTION
(in million tons)

	All Grain	*Rice*	*Dry Grains*
1949	2.75	1.22	1.53
1953	2.53	1.34	1.19
1954	2.61		
1955 (no data)			
1956 (Plan)	3.27	1.59	1.68

5 One chungbo equals 0.99 hectares or 2.45 acres.

Table 18 shows that while rice output in 1953 was slightly more than in 1949, total grain output was below the prewar level. In 1954, because of a crop failure on the East Coast, rice production fell below the 1953 level and total grain output rose only 3 percent. For 1955 no data are available; because of a drought on the West Coast, the chief grain-growing area, grain output as a whole was below plan. In April 1956, Kim Il Sung said all efforts would be applied in 1956 to reach at least the prewar level of grain output.

The Three-Year Plan gave a provincial breakdown of the planned 1956 grain production, yields and acreages. Although the 1956 plan will evidently fall short of realization, it is presented here to illustrate the geographical distribution of total grain and rice cultivation (Table 19). The balance of the grain consists of dry crops, such as wheat, barley, millet, kaoliang and corn.

of Chagang, where growing conditions do not favor rice, was the rice share down to 20 percent.

Second to grain cultivation is the growing of vegetables. Virtually every Korean farmer has a small vegetable plot and near large cities farms specialize in the production of truck crops. The Three-Year Plan called for a doubling of the 1949 vegetable production, but as in the case of grain the goal is not expected to be achieved (Table 20).

Tobacco is grown chiefly in the West Coast provinces. The Three-Year Plan called for tobacco production to be expanded particularly in the Sunchon, Maengsan, Tokchon and Yangdok *kun* (counties) of South Pyongan province. Planned output for 1956 was 4,400 and 3,800 tons in Hwanghae province and South Pyongan province, the two leading tobacco areas. Actual production in recent years is shown in Table 21.

TABLE 19. PLANNED 1956 GRAIN OUTPUT BY PROVINCES

Province		*Production* (1,000 tons)	*Yields* (tons per chungbo)	*Area* (1,000 chungbo)
Northern Interior				
Chagang	All Grain	177.1	1.31	134.9
	Rice	36.4	3.25	11.2
	Others	140.7	1.14	123.7
East Coast				
North Hamgyong	All Grain	250.5	1.38	181.8
	Rice	101.2	3.49	29.0
	Others	149.3	0.98	152.8
South Hamgyong	All Grain	424.9	1.57	270.4
	Rice	224.3	3.50	64.0
	Others	200.6	0.97	206.4
Kangwon	All Grain	182.2	1.26	144.7
	Rice	88.9	2.66	33.5
	Others	93.3	0.84	111.2
West Coast				
North Pyongan	All Grain	632.4	2.04	310.0
	Rice	317.2	3.55	89.3
	Others	315.2	1.43	220.7
South Pyongan	All Grain	645.6	1.67	386.7
	Rice	295.2	3.52	84.0
	Others	350.4	1.16	302.7
Hwanghae	All Grain	956.7	1.66	577.1
	Rice	529.5	3.43	154.5
	Others	427.2	1.01	422.6
Total North Korea	All Grain	3,269.4	1.63	2,005.6
	Rice	1,592.7	3.42	465.5
	Others	1,676.7	1.09	1,540.1

The table shows clearly the predominant role played by the West Coast provinces in agricultural output. Their share in the 1956 planned output of grain was 70 percent. Both on the West Coast and on the East Coast, rice was planned to be about 50 percent of all grain produced. Only in the Northern Interior province

Other agricultural products specifically listed in the plan are potatoes and cotton. Irish potatoes were introduced in the 1930's on a large scale in the North and South Hamgyong provinces on the East Coast. The 1956 plan for these two provinces was 434,300 tons. No specific cotton figures were published in the plan,

which merely called for expanded acreage in the Uiju, Sonchon, Chongju and Yongbyon *kun* of North Pyongan province, setting the planned 1956 yield at 0.9 tons of unginned cotton per chungbo.

Sericulture was given special attention in the Three-Year Plan, which called for an expansion of mulberry tree plantings to 8,100 chungbo and a cocoon yield of 6,400 tons by 1956. Plantings were to be expanded in the Yongbyon, Kujang and Pihyon *kun* of North Pyongan province, Wiwon, Chosan and Huichon *kun* of Chagang province, and Munchon and Hoeyang *kun* of Kangwon province. Cocoon output increased in 1954 over the previous year, but the 1955 report described sericultural work as "unsatisfactory."

As an auxiliary enterprise the farmers often grow fruit, the orchards frequently being on steep, stony slopes unfit for field crops. Orchards are found in virtually all provinces, except the northernmost mountain areas with their rigorous climate. The Three-Year Plan set the planned 1956 acreage at 17,400 chungbo. Of this total, 10,900 chungbo in private and cooperative farms were to yield 48,000 tons of fruit and 6,500 chungbo in state farms 48,000 tons, or a total of 96,000 tons of fruit. It will be noted that the planned yield in state farms (7.4 tons per chungbo) was considerably larger than the one envisaged for other farms (4.4 tons per chungbo). The provincial distribution of orchards is shown in Table 23.

The Korean war caused great damage to irrigation works and other installations designed to increase the production of irrigated crops, especially rice. In the course of 1954, 15,000 chungbo were added to the irrigated area, and in 1955 more than 30,000 chungbo. The greatest irrigation project is the Anju system on the lower Chongchon River. This project, in which 1,215,000,000 won are being invested, is designed to put 25,000 chungbo under irrigation upon its completion. The first section was opened in 1955.

Under normal conditions, North Korea has a very inadequate animal economy. Moreover, the small livestock holdings were greatly reduced as a result of the war, in 1953 cattle being down to 64 percent and hogs 82 percent of the 1949 level (Table 24). Postwar recovery has not been proceeding according to plan. In 1954, the number of cattle declined because of the poor weather conditions on the East Coast, and in 1955 the livestock planned target as a whole was not met. The best percentage increases were recorded for sheep and goats, which rose 65 percent in 1954 and 56 percent in 1955. But sheep and goats are relatively insignificant in absolute terms, the 1956 goal being only 45,000 head.

TABLE 20. VEGETABLE PRODUCTION
(in thousand tons)

1949	800
1953	470
1954	840
1955	(no data)
1956 (Plan)	1,597

TABLE 21. TOBACCO PRODUCTION
(in thousand tons)

1949	9.9
1953	2.3
1954	6.0
1955	(no data)
1956 (Plan)	12.8

TABLE 22. SILK COCOON PRODUCTION
(in tons)

1949	5,600
1953	3,200
1954	4,540
1955	(no data)
1956 (Plan)	6,400

TABLE 23. PLANNED 1956 ORCHARD ACREAGE BY PROVINCES
(in chungbo)

North Hamgyong	965
South Hamgyong	5,835
Kangwon	1,202
South Pyongan	3,265
Hwanghae	5,099
Others	1,034
North Korea	17,400

TABLE 24. CATTLE AND HOG HOLDINGS
(in thousand head)

	Cattle	*Hogs*
1949	786	662
1953	503	543
1954	(no data)	630
1955 (no data)		
1956 (Plan)	694	934

In the Korean war, North Korea's railroads lost 70 percent of their locomotives, 90 percent of their locomotive sheds, 65 percent of their freight cars and 90 percent of their passenger cars. The Three-Year Plan called for the restoration of 119 kilometers of main-line and 327 kilometers of station track, completion of a new railroad from Chorwon to Tokchon (83 kilometers long) to cover a gap made in the rail system by the cease-fire line, the restoration of 519 bridges, 16,200 cubic meters of tunnel work and 16,000 square meters of support walls.

Among electrified sections to be restored were the Yangdok-Chongsong (51 kilometers) and the Kogo-Koin (27 kilometers). In addition, the Kilchu-Paegam section, 70 kilometers long, was to be newly electrified.

As a result of this and other restoration work called for by the plan, normal traffic was to be restored on the main lines leading to China: the West Coast lines crossing the borded at Sinuiju and Manpo (formerly called Manpojin), and the East Coast line via Hamhung and Chongjin. Through traffic was also to be restored on the Pyongyang-Sariwon-Kaesong line, leading south toward the cease-fire line. In the course of 1954, 311 kilometers of tracks were restored or newly laid, including the Pyongyang-Koson section near the truce line; 135 bridges were rebuilt, including one over the Taedong River, and the Chongjin repair shops resumed operations. In 1955, an additional 125 kilometers of track were laid. As a result of this work and the needs of the economic rehabilitation program as a whole, rail freight tonnage increased rapidly and the 1949 level was exceeded in 1955 (Table 25).

TABLE 25. RAIL FREIGHT TONNAGE

	Tons Originated (millions)	*Ton-Kilometers* (billions)
1949	16.3	3.40
1953	11.5	1.97
1954	15.5	2.66
1955	18	3.78
1956 (Initial Plan)	18	3.53

In addition to the Chongjin locomotive and car repair shops, repair facilities were to be restored at West Pyongyang and Wonsan. These shops were to add 2,798 units to the freight car pool, including 1,569 through rebuilding of war-damaged cars; 506 passenger cars, including 206 war casualties, and 128 locomotives. Locomotive stock is shown in Table 26.

TABLE 26. LOCOMOTIVE STOCK

	1949	*1953*	*1956 Plan*
Broad-gauge units	757	470	580
Narrow gauge units	130	(no data)	
Electric locomotives	26	12	30

It will be noted that the planned broad-gauge locomotive pool was still below prewar level. To increase the utilization of rolling stock, the plan called for an increase in the average daily locomotive run from 207.6 kilometers in 1949 to 220 kilometers in 1956. The turn-around time of broad-gauge freight cars was to be cut from 6.7 days in 1949 to 4 days in 1956.

Compared with railroads, truck and water transportation plays a relatively minor role. In the course of the war, 85 percent of all shipping was sunk. The plan called for the building of 146 new vessels (obviously small) with a total tonnage of 9,350 tons and the raising of 6 sunk vessels with a total tonnage of 255 tons. About 2,200 trucks and 100 buses were to be added to the highway transportation pool. The freight carried by trucks and vessels in 1949 and the 1956 plan are shown in Table 27.

With regard to the labor force, the North Korean authorities publish a statistical series comprising persons in state employment. They include workers and employes in industry, transportation, construction and other state-directed activities (Table 28).

TABLE 27. TRUCK AND SEA-RIVER FREIGHT TRANSPORT

		1949	*1956 Plan* (millions)
Trucks	Tons Originated	1.46	7.65
	Ton-Kilometers	35	191
Sea-River	Tons Originated	0.85	1.2
	Ton-Nautical Miles	19	21.6

TABLE 28. STATE LABOR FORCE

End of 1953	621,000
End of 1954	818,000
End of 1955	891,000

In education, the Three-Year Plan called for the provision of general elementary education to all children of school age. It listed the expected 1956 elementary and middle school attendance by provinces. Assuming that the school-age population is about one-sixth of the total population (a ratio based on population findings in other Communist countries), the population of the provinces can be estimated (Table 29).

Table 30 shows that while the planned student population was likely to be attained at the lower educational levels, technical and higher education was falling short of the plan.

North Korea's recovery in all fields is being assisted by the nations of the Communist bloc, this assistance

TABLE 29. PLANNED 1956 STUDENT AND TOTAL POPULATION BY PROVINCES

	Student Population	*Estimated Total Population*
Chagang	107,700	650,000
North Hamgyong	221,700	1,350,000
South Hamgyong	360,700	2,200,000
Kangwon	128,900	800,000
North Pyongan	306,400	1,850,000
South Pyongan	338,100	2,000,000
Pyongyang city	86,600	500,000
Hwanghae	390,300	2,300,000
Kaesong city	36,400	200,000
North Korea	1,976,800	12,000,000

TABLE 30. NUMBER OF STUDENTS BY TYPES OF SCHOOLS

	1955	*1956 Plan*
Elementary	1,462,000	1,507,800
Middle	437,000	469,000
Technical	26,000	52,300
Higher	12,000	22,500

ranging from the supply of a wide variety of goods and equipment (as well as technical assistance) by the Soviet Union and China to more limited aid by the smaller Communist countries. In 1955, for example, Soviet equipment and technical aid were used in the construction of the Central Broadcasting Station at Pyongyang, a Soviet Red Cross hospital and the Pyongyang cotton mill. Soviet equipment was arriving for power stations, ferrous and nonferrous metallurgical plants, chemical and cement plants, the Pyongyang meat-packing plants, fish canneries and for the electrification of railroads. It is reported that Communist China rebuilt a main-line railroad bridge over the Yalu River and other bridges over the Chongchon and Taedong rivers. Poland sent installations for two locomotive and car repair shops and for three coal mines; Czechoslovakia supplied cement-milling machinery, Bulgaria equipment for a woodworking and a brick factory, and East Germany helped rebuild the war-devastated city of Hamhung. Even Outer Mongolia offered assistance, supplying horses, cattle and hides in the course of 1954.

Recent Publications of the Mongolian Commission

BY G. G. S. MURPHY

Since 1921 source materials on the territory of the Mongolian People's Republic are almost entirely Soviet in origin and are mainly fragmentary and propagandistic with few exceptions.[1] The bulk of the literature published in Ulan Bator seems to be unavailable to scholars outside the U.S.S.R., e.g., all the issues of *Sovremennaia Mongolia* and issues of such journals as *Shinzhlekh Ukhaan* modelled on the Russian *Nauka* (Science) and many issues of *Khoziaistvo Mongolia*. It is thus difficult to form a clear picture of the extent of social and economic change in Mongolia in recent times.

Among the few important sources of research materials on Outer Mongolia, however, one must include the series of books by Russian scholars published by the Mongolian Commission in the Soviet Union.[2] The Commission itself was created in 1925 by order of the Russian Council of People's Commissars.[3] As one might expect it was set a decidedly pragmatic objective. In the words of Zlatkin,[4] "the chief task of the Mongolian Commission was to render aid to the Mongolian People's Republic in the study of the productive powers of the country." But the terms of reference of the Commission seem to have been interpreted widely and basic research on the geography, zoology, botany, geology, language and economy of Mongolia has been carried out and its results embodied in the various reports in the series.[5]

Of late the Commission has published more frequently than it did in its earlier years.[6] This increased output is due in part to the fact that members of the Russian Academy of Sciences' Agricultural Expedition to Mongolia (1947-52) have been recording their findings. It may also reflect the influence of the University of Ulan Bator, opened in 1942 and partly staffed by Russian specialists. As with many happenings in the

Mr. Murphy is a Research Associate in the Mongolia Project at the University of Washington, Seattle.

1 For instance books or pamphlets titled *Mongolskaia Narodnaia Respublika* (The Mongolian People's Republic), by S. Viktorov and N. Khalkin (1936), P. Ogin (1939), B. Perlin (1941), N. D. Tsapkin (1948), N. Vargin (1949), M. N. Blagoveshchenskii (1950), S. S. Demidov (1952); and *Mongolskaia Narodnaia Respublika na puti k sotsializmu* (The Mongolian People's Republic on the Road to Socialism), V. Maslennikov (1951). The collection of article edited by I. Ia. Zlatkin, *Mongolskaia Narodnaia Respublika*, Moscow, 1952, is of a somewhat higher standard as is also Zlatkin's own book of the same title published in Moscow in 1950. The recently published official history might be considered to be of comparable standard to the Zlatkin books: *Istoriia Mongolskoi Narodnoi Respubliki* (History of the Mongolian People's Republic), Academy of Sciences of the USSR, Moscow, 1954. Of much higher quality is Murzaev's excellent geography: *Mongolskaia Narodnaia Respublika*, second edition, Moscow, 1952.

2 The Mongolian Commission has published: 3 volumes of a series entitled *Severnaia Mongolia* (Northern Mongolia), 1926-28; 15 volumes of a series entitled *Materialy Komissii po issledovaniiu Mongolskoi i Tuvinskoi narodnykh respublik i Buriat-Mongolskoi ASSR* (Materials of the Commission for the study of the Mongolian and Tuvinian People's Republics and the Buriat Mongolian ASSR), 1929-31; and some 70 issues of *Trudy Mongolskoi Komissii* (Works of the Mongolian Commission) from 1932 to date. These works were published jointly with the Committee of Science, Mongolian People's Republic. Not all are available but recent issues have been appearing in booksellers' lists. It is interesting to note that the Works of the Mongolian Commission carry added titles in Mongolian which are printed in Mongolian, Latin or Cyrillic script, depending upon which alphabet was in vogue when the work was issued.

3. From 1927 the Commission has been a department of the Russian Academy of Sciences. At first it had the title "The Commission for study of the Mongolian and Tuvinian People's Republic and the Buriat Mongolian ASSR." Later it received its present name, i.e., Mongolian Commission of the Academy of Sciences, USSR. See E. M. Murzaev, *Geograficheskie Issledovaniia Mongolskoi Narodnoi Respubliki*, Moscow-Leningrad, 1948, p. 123.

4 I. Ia. Zlatkin, ed., *Mongolskaia Narodnaia Respublika, Sbornik statei*, (The Mongolian People's Republic, a collection of articles), Moscow, 1952, p. 31.

5 The series also includes an excellent bibliography: V. P. Tiuliaeva, *Mongolskaia Narodnaia Respublika Bibligrafiia*, 1935-1950. Works of the Mongolian Commission, No. 42, Moscow, 1943.

6 Nearly 40 issues out of some 70 in the series "Works of the Mongolian Commission" have been published in the postwar period.

Soviet bloc having their origins in political decisions, this increased scholarly activity may well represent a heightened Soviet interest in its Central Asian satellite.

Shulzhenko's book on stockbreeding,[7] for instance, is a most valuable window into the area. The work is authoritative (the author having been a member of the agricultural expedition mentioned above) and is the more valuable because he studied similar problems with an earlier expedition in 1931 and his report, which includes an outline of desirable legislative enactments, is available.[8]

In this earlier report Shulzhenko sketched a program which included settling the nomads; providing livestock with hay, water, and shelter; improving the quality of the herds mainly by selection within the breed, and building an industry which could export meat, butter, and wool to the Soviet Union and could serve the needs of the domestic population. What has happened since the 1931 expedition?[9] It is generally known that attempts in the early 1930's to collectivize the nomads failed. But there has also been little success, apparently, in settling them. Here is Shulzhenko's 1954 description of a group of nomads (*khoton*) composed of the family of the stockworker (*peredovik zhivotnovodstva*), Chimdiin Ragcha: "The *khoton* breeds sheep, cattle, horses, camels, goats. . . . It winters in the locality of Bor-Khuzhir, where, for the lighter cattle in the herd, open shelters of dung are constructed, and warm winter bedding prepared. There are no shelters for other types of cattle. . . . No more than one ton of hay is prepared per household. In the spring, the household moves twenty kilometres to a well on the plains, where there are corrals made of hurdles without top cover, and at the end of spring, they move again. . . ." (p. 24). To illustrate the way in which Mongols conduct stock-raising, the author describes five such nomadic groups. From this it is clear that the nomads still keep to the century-old pattern of making a living.[10]

A second major emphasis of government policy, concerned with increasing livestock herds by building corrals, collecting and stockpiling hay, digging wells, and creating a veterinary service, has also shown little success. In 1944-45, a harsh winter and spring (a frequent occurence in Outer Mongolia) caused such great losses to herds that even now they have not recovered to pre-war strength. In fact Shulzhenko supports the view that such a recovery will require some few years more. Thus the impressive figures of progress that Soviet commentators show for wells dug, hay mown, etc., are misleading insofar as there has been a failure to meet the main objective—increased herds.[11] We read in Shulzhenko, also, that the nomads still do not prepare much hay and have no effective measures to revive cattle stricken with extreme cold. Photographs of cattle shelters in the text show them to be open windbreaks of the most primitive construction, and of doubtful value. Finally the government's attempts to secure more hay by building up a net of machine hay-making stations (analagous to the Soviet MTS) have met with difficulties. Because of the small cultivable areas and the low productivity per acre, the use of tractors has had to be discontinued and horses substituted for them.

On livestock breeds Schulzhenko writes: "The technique of stockbreeding in the country continues to remain at a low level and the breeds have not been improved" (p. 51). Sheep are the basis of the nomadic economy but "the breed of sheep and the technique of conducting sheepbreeding has not changed for the last eighteen years (p. 87), the time between the two expeditions. Hybridization of cattle with yaks in order to improve the productivity of the offspring is still virtually unpractised (p. 154). It is hardly an impressive record of achievement.

While it is reasonably certain that Outer Mongolia exports quite heavily to the Soviet Union, even in this area all is not well. Far from turning their attention to exportable animals (livestock and by-products are among the main items of export), the nomads still prefer to keep large numbers of horses to serve the "needs

7 *Zhivotnovodstvo Mongolskoi Narodnoi Respubliki.* (Stockbreeding in the Mongolian People's Republic), by I. F. Shulzhenko, Works of the Mongolian Commission, No. 61, Academy of Sciences, USSR, Moscow and Leningrad, 1954. Other recent issues on stockbreeding are: G. R. Litovchenko, *Voprosy ovtsevodstva Mongolskoi Narodnoi Respubliki* (Problems of sheepraising in the Mongolian People's Republic), Works, No. 43, Moscow, 1953; and *Produktivnost mongolshikh porod zhivotnykh* (The productivity of Mongolian breeds of livestock), a collection of articles on experimental work, Works, No. 66, 1954.

8 Ia. Ia. Lus, N. N. Kolesnik, I. F. Shulzhenko, etc. *Domashnie Zhivotnye Mongolii* (Domestic Animals of Mongolia). Works, No. 22, Moscow-Leningrad, 1936.

9 It should be pointed out that there was virtually no change in the techniques and customs of stockbreeding from 1921 until 1931, so the expedition found the economy largely in its pristine state. Shulzhenko's own comment (on the nomadic economy) in *Miasnoe Khoziaistvo Mongolii* (The Meat Economy of Mongolia), Works, No. 8, Leningrad, 1933, p. 6, is: ". . . the techniques . . . in the twentieth century have not changed at all from those of the twelfth or thirteenth century."

10 Attempts have been made to induce the nomads to form voluntary cooperatives known as "*arat* producers cooperatives." Evidence external to Shulzhenko seems to indicate that these are not widespread. The most recent information (borne out by earlier sources) show that slightly over ten percent of the *arats* (nomadic stockbreeders) have joined them. See Ivor Montagu, "Mongolian Visit," *Geographical Magazine*, London, July 1955.

11 Shulzhenko cites these data but presents them only as an element in the total picture.

of travel, as a reserve in case of large losses from epidemics, and due to a love for horses" (p. 49). To get the nomads to concentrate on animals whose by-products are exportable "will demand a considerable portion of time" (p. 53). Shulzhenko comments that the old practice of the Mongols in eating and drinking milk foods is good not only because it frees meat for export, but also is valuable in checking illnesses such as scurvy and gastric disorders.

In his scholarly and thorough analysis Shulzhenko reviews the literature on Mongolian stockbreeding, examines the archaeological and historical record, writes a good account of the current state of stockbreeding, and finally discusses each branch of livestock in considerable detail. New legislative recommendations are also given: these are probably more than merely suggestive, coming from a member of an official Soviet mission. Although marred by the use of percentage rather than absolute figures, by a total reliance on Soviet literature, and by more than an occasional bow to orthodoxy, the book is by far the most useful presentation available on a vital aspect of the Mongolian economy.

While stockbreeding has always been the fundamental branch of the Mongolian economy, agriculture has nonetheless been practised, if with varied fortunes, throughout historic times. Its extent has not been large and during the Manchu period most of the farmers were Chinese colonists. V. P. Shubin's *Agriculture of Mongolia*[12] gives the fullest account of Mongolian agriculture since the Soviet Union gained influence over the area. He portrays two kinds of agriculture existing together: a traditional type hardly changed from its ancient practices and that of State farms (*goskhozy*)[13] which use contemporary Soviet techniques and equipment. The basic crops are still barley, wheat, millet, and oats. While the State farms have experimented with many new crops (spring wheat, maize, sorghum, sunflowers, poppy, flax, potatoes, carrots, turnips, beet, radishes, cucumbers, melons, pumpkins, tomatoes, onions, garlic, cabbage, and tobacco), it seems that only small quantities of sugar beet and tobacco are actually produced non-experimentally (p. 119).

Both the private farmers and the State farms adopt the practice of cultivating virgin land for two to six years and then moving on to fresh areas, leaving the worked fields to recuperate—a necessary practice because of the poor soil (p. 114). Owing to the low rainfall all arable land must have some form of irrigation, though in some cases this may only be a presowing watering. Agriculture is carried on mainly in the river valleys or near the lakes of the northern part of the country, but the fact that Shubin spent some time as the director of an experimental station in the Gobi indicates that the government is considering the possibility of oasis agriculture in the south. Mongolia has a climatic problem similar to that of the Soviet Union, heat and moisture being inversely correlated so that few areas have the right balance of warm days and good precipitation[14] but in Mongolia the problem is more severe. As a consequence yields are low.[15]

One may wonder at the reasons why change in methods and tools has been so slow in the *arat* and Chinese farms. The primitive Chinese plow and equally primitive harrows, reaping and grinding instruments are still widely used (p. 112). Modern techniques of artificial fertilizing are unknown and the simple method of natural fertilizing by herding animals on fallow land is found only infrequently (p. 114). Shubin explains some of this by saying "the fact that the European plow is not used is explained not so much by its absence on the markets as by the fact that local husbandmen do not know how to set it up and use it." He also suggests that the primitive local equipment is admirably adapted to the light and thin soilcover of Mongolia (p. 112). One may well be skeptical of these explanations. The facts seem to show that agriculture has been largely neglected by the Mongolian government. Maiskii[16] for instance quotes Boloban to the effect that 60,000 to 70,000 *desiatinas* (162,300 to 189,350 acres) were cultivated in 1911, but the highest acreage worked during the Soviet period was only 80,000 hectares (197,680 acres) in 1944 (Shubin, p. 90). Yet this was at a time when Mongolia had expanded its agriculture to replace imports which the Soviet Union could not supply from its war-ravaged economy. Ten years earlier only 10,000 to 12,000 hectares (24,710 to 29,650 acres) were under cultivation (p. 53). Hence until World War II agriculture probably declined, mainly owing to a fall in the number of private farms. To students of Mongolia this will not be strange, as it is known that large numbers of Chinese—traditionally the farmers of Mongolia—left the country. Of interest is Shubin's

12 V. F. Shubin, *Zemledelie Mongolskoi Narodnoi Respubliki*, Works, No. 52, Moscow, 1953.

13 There are two types of *goskhozy*: grain farms and mixed farms which produce grain, livestock, poultry and so on. The dichotomy instanced above is a simplification. Shubin mentions agricultural *artels* formed by Mongols. But he does not discuss them further and we may judge their significance to be small.

14 Compare, for instance, Shubin, *op. cit.* (p. 15 *et seq.*) with W. P. von Poletika, "A Climatic Survey of Russian Agriculture," *Bulletin* of the Institute for the Study of the History and Culture of the USSR, Vol. II, August 1955, No. 8.

15 But Shubin claims 30-35 centners per hectare (up to 52 bushels per acre) as being possible on state farms, given optimum techniques (p. 120).

16 I. Maiskii, *Sovremennaia Mongoliia*, Irkutsk, 1921, p. 227.

mention of "Mongolian farmers," but as no figures are given for their number it is impossible to assess how far the government has influenced Mongols to take up agricultural occupations. The total acreage figures cited above indicate that the influence has not been great. When the decision was taken to expand agriculture during the war, it is not surprising that emphasis was placed on the state farms to take up the increased acreage. It seems unlikely that the primitive private farms provide any marketable surplus, and in his estimate of the future of Mongolia Shubin indicates no role for the private farmers. What limited agriculture there is to be would be conducted by state enterprise (p. 120). The pattern of change in Mongolia has thus been different from that within the Soviet Union. Whereas in stockbreeding there are a few *arat* producers' cooperatives but most of the nomads make a living on age-old patterns, in agriculture there are no *kolkhozies* and the techniques of an ancient primitive agriculture persist. It is possible, of course, that the future may bring greater institutional conformity but these are striking contrasts.

Shubin estimates (p. 53) the available land for expanded operations at 3,048,000 hectares (7,530,000 acres).[17] Even if one accepts this as a very optimistic estimate, it is apparent that there is considerable room for development. Then why have the Mongols always concentrated on stockbreeding? Toynbee's explanation for the prevelance of nomadic pastoralism in its classical situs—climatic imperatives[18]—does not seem to fit the facts of Mongolia. Shubin believes there has been an actual decay of agriculture since the times of Chinggis Khan due to "feudal-patriarchal relationships," i.e., to "political and social factors" (p. 86). But now that these negative factors have been removed, why is there still no significant expansion? Various Western authorities have examined the question of the specialization of the Mongols in one type of economic activity. Lattimore[19] believes that the interaction between Chinese and Mongolian societies tended to force the Mongols to an extreme form of mobile nomadism as a means of defense and aggrandizement. Krader[20] and Beardsley[21] have advanced the idea that Mongolian culture existed as it did because of a symbiotic relationship with sedentary peoples, thus destroying the need for Mongols to have economic specialization within the society. Wiens[22] has suggested that economic advantage may help to explain the specialization of Mongols in stockbreeding. It is disappointing, but hardly unexpected, that Shubin's reading of the archaeological and historical record should lead him to an orthodox Marxist explanation. But this is the collective weakness of the Works of the Mongolian Commission—when they observe facts they provide valuable data, but the stamp of orthodoxy, and in some cases of propaganda, is on their theories.

But Shubin's study is a valuable source on Mongolian agriculture. For those interested in the problems of marginal lands, the research results of experimental stations in the Khangai and Gobi regions which largely occupy the book should be of interest. It has a good bibliography but confines itself to Russian materials, although it does use unpublished Mongolian sources. It contains a geographic study of the country which leans on such experts as Bespalov, Iunatov, and Murzaev; there is also a valuable map of the geographic distribution of farms, both of the state and of private persons. It does not include any discussion of developments since 1945.

For those who enjoyed Herold G. Wiens' article on geographic limits to food production in Mongolia[23] but wondered how realistic was his estimate of the total number of livestock that the pasturelands of that country could bear, a recent book by a leading Soviet geobotanical expert on Mongolia, A. A. Iunatov,[24] may prove interesting. This work is the product of eleven years of field work and complements the author's earlier work[25] on the subject. Iunatov classifies over 550 specimens of the flora of Mongolia that have significance for pasturing animals. For each plant type he gives the Latin, Mongolian and Russian name, a short morphological characterization, the plant's geographical distribution within the country, and comments on the

17 This is considerably higher than the estimate of the ranking Mongolian soil expert, N. D. Bespalov—500,000 hectares (1,240,000 acres). The confusion may spring from different definitions, but see Bespalov, *Pochvy Mongolskoi Narodnoi Respubliki* (Soils of Mongolia), Works, No. 41, Moscow, 1951, p. 308.

18 A. J. Toynbee, *A Study of History*, Vol. III, London, 1934, pp. 1-127, 395-454.

19 Owen Lattimore, *Inner Asian Frontiers of China*, New York, 1951.

20 Lawrence Krader, "The Cultural and Historical Position of the Mongols," *Asia Major*, Vol. III, Part II, London, 1953. pp. 169-183.

21 Richard K. Beardsley, "Hypotheses on Inner Asian Pastoral Nomadism and the Culture Area," Supplement to American Antiquity, Vol. XVIII, No. 3, Part 2, Jan. 1953, *Memoirs of the Society for American Archaeology*, No. 9, pp. 24-28.

22 Herold J. Wiens, "Geographic Limits to Food Production in the Mongolian People's Republic," *Annals of the Association of American Geographers*, Vol. XLI, No. 4, December 1951, p. 368.

23 Wiens, *op. cit.*

24 A. A. Iunatov, *Kormovye rasteniia pastbishch i senokosov Mongolskoi Respubliki* (Feed crops of pasture and hay of Mongolia), Works, No. 56, Moscow-Leningrad, 1954.

25 A. A. Iunatov, *Osnovnye cherty rastitelnogo pokrova Mongolskoi Narodnoi Respubliki* (Fundamental features of the vegetative cover of Mongolia), Works, No. 39, Moscow-Leningrad, 1950.

ecology, food value and chemical analysis of the more important species. But the reader, unless he is a specialist in botany, will be more interested in the general picture of the Mongolian pastures which emerges. Although the book gives a figure of over 130 million hectares (320 million acres) for land suitable for pasturage, the picture is far from rosy. The pastures have great variability in yields from year to year (p. 37) as well as a pronounced seasonality of yield (p. 335). Even in the comparatively rich mountain steppe area the yields are only 5-7 centners per hectare (up to 10.4 bushels per acre). Where hay can be grown on the steppes the yields are only 3.5 to 6 centners per hectare, and the soil is such that the land cannot be continually cropped; each successive year the yield declines (p. 39). It will be remembered that Wiens believed the Mongolian pasture lands were overstocked by 60 percent in 1941 when the herds were about 27.5 million. Shulzhenko apparently believes, however, that herds substantially in excess of this figure, i.e., 30-38 million animals, can be maintained at pasture,[26] but an illuminating footnote reveals that there is some disagreement with his view amongst the Soviet experts. He remarks (p. 68) that the fodder experts (including Iunatov) of the 1947-52 agricultural expedition show a fodder reserve which would satisfy only the needs of a total number of animals below the 1941 figure in both the Khangai and Gobi zones. Perhaps further light on this very important problem—for the increased welfare of the *arat* will involve increased herds—may come from later works.[27]

Other recent studies of the Mongolian Commission that the reviewer knows to be available offer less of immediate interest on current affairs. They are works of basic research in the natural sciences. A. G. Bannikov's slender volume[28] lists and describes the mammals of the Mongolian People's Republic. Number 59 in the series[29] is a collection of essays on the paleontology of the area. Grubov has written a synopsis[30] on the flora.

Enthusiasm for these new sources on Mongolia should not blind the reader to the blemishes which are found in many research materials. The typical strengths and weaknesses, the familiar points of emphasis and of reticence can all be noted in the various works. Even in such a remote area of research one can detect echoes from the hurlyburly of academic politics within the Soviet Union. The reader will be struck, for instance, by Shulzhenko's partisan use of the nineteenth century census data discovered in the State archives, material which is of course entirely new to Western students. Moreover, Shubin's whole presentation of the fortunes of Mongolia's agriculture under the period of the Soviet influence smacks of the disingenuous. There are still vast gaps in published Soviet research on Mongolia. One of the most obvious is the lack of serious comment on the nature of social change in this country of nomads who are undergoing the impact of governmental attempts to introduce Soviet-type planning. The poverty of the Soviet literature on this subject is frustrating. Even the theoretical attempts to fit recent Mongolian experience into the Marxist conceptual scheme are few and pedestrian. But one must record thanks for the research work already accomplished. It is to be hoped that the Works of the Mongolian Commission will continue to fill in gaps in our knowledge so that, to paraphrase Maiskii's rather empty claim in 1921,[31] the period of systematic guesswork in relation to Outer Mongolia can end, and the period of positive knowledge begin.

26 He does not give totals but these can be deduced arithmetically. Shulzhenko, op. cit. pp. 54-73.

27 For instance, A. V. Kalinina (*Statsionarnye issledovaniia pastbishch Mongolskoi Narodnoi Respubliki* (Station research on pastures of Mongolia) Works, No. 60, Moscow-Leningrad. The reviewer was unable to obtain this work before this article was completed.

28 A. G. Bannikov, *Opredelitel mlekopitaiushchikh Mongolskoi Narodnoi Respubliki* (The Mammals of the Mongolian People's Republic), Works, No. 51, Moscow, 1953.

29 *Sbornik rabot po paleontologii Mongolskoi Narodnoi Respubliki*, (Collection of work on paleontology of the Mongolian People's Republic), Works, No. 59, Moscow, 1954.

30 V. I. Grubov, *Konspekt Flory Mongolskoi Narodnoi Respubliki* (A synopsis of the Flora of the Mongolian People's Republic), Works, No. 67, Moscow-Leningrad, 1955.

31 Maiskii *op. cit.* p. 15.

BOOKS ON THE PACIFIC AREA

THE NEW JAPAN, GOVERNMENT AND POLITICS. By Harold S. Quigley and John E. Turner. Minneapolis: University of Minnesota Press. 1956. 456 pp. $5.00.

It is particularly appropriate that Professor Quigley, who in 1932 wrote the outstanding account of prewar Japanese government and politics, should now—with the assistance of his colleague and former student, Professor Turner—provide us with what is certainly the most definitive study of the postwar political scene in Japan yet to be published. The present volume and the older work rather closely resemble one another in general conception and organization. Both represent a judicious combination of essential political history with a cross-sectional description and analysis of the contemporary structure and formal functioning of the Japanese government. Both add to this a most useful series of appendices containing the texts of an excellent selection of basic political documents. The present volume differs from its predecessor, however, in the amount of attention which it gives

to the actual, as opposed to the theoretical, workings of government. The authors display keen insight into the obscure workings of the informal political process in Japan and a fine sensitivity to many of the nation's continuing political problems. Especially noteworthy in this respect are Chapters 1, 18 and 20.

A word must also be said concerning the section on the Allied Occupation of Japan. Considering its national and world-wide importance and the volume of controversy generated thereby, it is astonishing that American scholarship is taking so long to produce objective and detailed analyses of this unique experiment in more or less controlled acculturation. The authors go some distance toward filling this gap. Their all too brief seventh chapter, for example, contains some of the most accurate and pithy reflections on the Occupation wonderland that this writer has yet seen in print.

The work as a whole is a monument of painstaking scholarship. Inaccuracies are few and relatively minor. Inevitably its structural and legal descriptions will be outmoded by the rapid course of political change in contemporary Japan, but a great deal of lasting value will remain.

University of Michigan ROBERT E. WARD

INDONESIAN SOCIOLOGICAL STUDIES, Selected Writings of B. Schrieke, Part One. New York: Institute of Pacific Relations. The Hague, Bandung: W. van Hoeve. 1955. 313 pp. $3.00.

This second volume in the series of "Selected Studies on Indonesia by Dutch Scholars" deserves high praise. It has long been a source of difficulty for many Western students of Indonesia that so much invaluable material could be found only in what has been termed "the secret code of the Dutch language." With the publication of this volume another step has been taken towards remedying this situation. Included in the volume are four essays by Dr. Schrieke dealing with a wide range of subject matter. The two long (each slightly over 80 pages) essays reprinted here are concerned respectively with "The Shifts in Political and Economic Power in the Indonesian Archipelago in the Sixteenth and Seventeenth Century" and the highly interesting "The Causes and Effects of Communism on the West Coast of Sumatra." Completing the compilation are two short, but equally valuable, essays on "The Native Rulers" and "Some Remarks on Borrowing in the Development of Culture."

Perhaps most pertinent to contemporary developments is the essay on Sumatran communism. Written in 1928, as part of the official investigation of the communist uprising of 1926, it is notable both for its incisive analysis and the frankness of its comments on the shortcomings of government policy. The essay's topicality after almost thirty years is a tribute to the thoroughness and vitality of the writer's scholarship and analytical powers. The two essays on "The Shifts in Political and Economic Power" and "The Native (Javanese) Rulers" are excellent examples of the penetrating light which can be cast on developments by the use of a highly developed political-sociological approach. Nor should the concluding brief (12 pages) essay on borrowing in cultural development be ignored. It too is stimulating in its concepts. All in all this is a book that no student of the social sciences, regardless of any area interest, can afford to be without.

Cornell University ROBERT C. BONE JR.

RUSSIA'S JAPAN EXPEDITION OF 1852 TO 1855. By George A. Lensen. Gainesville: University of Florida Press. 1955. 208 pp. Cloth, $5.00; Paper, $4.00.

So close to the centennial of the reopening of Japan to intercourse with Western countries and peoples, a book on the above subject is especially welcome. It follows by four years W. G. Beasley's *Great Britain and The Opening of Japan*. Occidental readers still need well documented treatments of that period based primarily on more extensive Japanese, Dutch and French sources. The author of this account mentions the five main sources for his narrative: the official reports of the Russian expedition's commander, Vice-Admiral E. V. Putiatin; the diary and letters of Putiatin's secretary, I. A. Goncharov [previously translated into English by Kathleen Price in University of Michigan, Center for Japanese Studies, *Occasional Papers*, No. 2 (1952), pp. 1-29]; the memoirs of an officer who served with the expedition in its later phase; and the diaries of the two Japanese commissioners who negotiated for the Shogunate.

Dr. Lensen's knowledge of Russian, Japanese and English has enabled him to shed much light on Russo-Japanese relations of that time. For those already acquainted with the main events and background, the last six chapters are most interesting. Especially significant is the observation that the stage of friendship was not reached in those relations until the Russians' ship was stranded by the disastrous and vividly described effects of a series of seismic tidal waves. Then the visitors ceased to be a menace in the eyes of the Japanese and instead needed assistance (pp. 120-21). In more recent years, when psychological dimensions of relations between East and West are receiving more attention, there is an object lesson in this episode. At Heda, the understanding of those Japanese and Russians was further developed as together they built a Western-type schooner (pp. 104-5, 109-10).

The book is no mere editorial compilation but a skillfully written history with copious quotations and a number of important interpretations. It closes with three appendices giving names of the officers on the three Russian vessels, a table of personnel totals and guns, and the text of the Treaty of Kanagawa between Japan and the United States. The texts of the Russo-Japanese Treaty of Shimoda and of Explanatory Articles are given on pages 122-25. Citations by chapter are also located near the end, followed by an index.

Fletcher School of Law and Diplomacy ALLAN B. COLE

FAR EASTERN SURVEY

Editors: WILLIAM L. HOLLAND, HAROLD H. FISHER

PUBLISHED MONTHLY BY THE AMERICAN INSTITUTE OF PACIFIC RELATIONS, INC., 1 EAST 54TH STREET, NEW YORK 22, N. Y. J. MORDEN MURPHY, *Chairman;* SIDNEY D. GAMBLE, *Treasurer;* WILLIAM L. HOLLAND, *Executive Secretary*. ANNUAL SUBSCRIPTION, $6.00; SINGLE COPIES, 50 CENTS. MICROFILM EDITION AVAILABLE THROUGH UNIVERSITY MICROFILMS, ANN ARBOR, MICH.

The American Institute of Pacific Relations does not express opinions on public affairs. Responsibility for statements of fact or opinion appearing in the FAR EASTERN SURVEY *rests solely with the authors. The editors are responsible for the selection and acceptance of articles.*